NOTES ON SOME CALIFORNIA BUTTERFLIES

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ÆNEIS CHRYXUS DBLDY. & HEW.

This typically Rocky Mountain species was taken for the first time in California at a little over 9000 feet on Sonora Pass, Alpine County, California, July 17, 1935. Some speculation may be involved as to why this species has been found in such an isolated colony, but when one compares *chryxus* with *ivallda* Mead, found in like situations in other parts of the Sierra, it is easy to see a close relationship between the two. *Ivallda* seems to be only a pale race of *chryxus* with undoubtedly other minor changes (Barnes and Benjamin list it as such). This Sierran *chryxus*, though, differs from the Rocky Mountain form in that there is a bold contrast between the colors. Very few individuals have the dull merged colors of the typical *chryxus* although there are some of the latter with bold markings. How constant this is will have to be determined. This same situation is also true of *Neominois ridingsii* Edw., which some years ago was found to fly at high elevations in the Southern Sierra. California specimens have the dark colors boldly contrasted with the white, the ocelli are larger and the white band on the upper side of the secondaries is continuous, in Rocky Mountain specimens it is usually broken by dark colored veins.

Although the range of both *ridingsii* and *chryxus* in California may be somewhat greater than now supposed, it is hoped that too heavy collecting upon these grounds will not take place as the races should not be exterminated. In late years the fad of series collecting has caused the wiping out of many large colonies of rare butterflies, in fact, I know of collectors obtaining as many as five hundred specimens at the same place within a few days. It is true that one must obtain a large series in order to show the variations in the species, but they need not be all taken at the same place at the same time. An interval of a few seasons would allow the colony to recuperate. *Chryxus*, especially, must have a very limited range as the area around there has been collected for many years but the butterfly had

never been found. Maybe some day the government will take a hand in the protection of these beautiful things as it does with the birds and flowers.

EURYMUS ALEXANDRA EDWARDSII FORM ♀ HATUI B. AND B.

This is the albino female of the typical *edwardsii*. One specimen was taken in a creek bed near Likely, Modoc County, California, along with other typical yellow specimens. The albino probably has never been taken in California before.

BREPHIDIUM EXILIE SCUD.

This tiny butterfly, which, in California, has been thought to be found only in the southern part of the state seems to have a much wider distribution. I have taken several specimens along the desert roads in Lassen County, near Litchfield, and throughout the sage lands of the plateaus of eastern Lassen and Modoc counties. It may have been introduced and seems to be quite common. It has also been taken or seen at times in gardens throughout the San Francisco Bay District, and Mr. R. Bohart records it at an elevation of 10,600 feet on Mt. Conness in Tuolumne County, California, so it undoubtedly has a much larger range than was formerly supposed.

EUPHYDRYAS BARONI EDW. AND E. EDITHA BDV.

Some controversy has been going on as to what the specimens found around San Francisco Bay, belonging to this group, are. If one will notice that the type locality of *baroni* is Mendocino County and of *editha* is the southern Coast Range or the Sierra Nevada (probably Kern County), it will no doubt occur to him that San Francisco is quite far from either of these places. We might expect San Francisco specimens to be intermediate in character, and by comparison with specimens from the type localities, this is shown to be the fact. The San Francisco form is not deserving of a name so it will have to go by the one that seems to fit the individual insect the best. If simple facts such as this will only be used by our Lepidopterists, much confusion and disorder would be avoided. One fact that many seem to overlook is that a single species may vary throughout its geographical range. This is, of course, very generally accepted by scientists for it is a basis for the evolution of species. Especially is this true in the west where our species are in a plastic state.

There are many influences which effect these geographical forms and account in part for their distribution. (1) genetical change instituted by some climatic factor, (2) pure mendelism, (3) physiological changes caused by climate or host, (4) mutation, (5) the persistance of a species in a remnant of a flora which may have had a much wider range than it has today. An example of the latter is *Parnassius clodius* in Marin County, California, where, as a species quite separated from its usual range, it is still surviving in connection with a localiized flora which is a direct descendant of a Miocene forest.—(Carnegie Inst. Bull. 415).

A New Work on Shade Tree Insects

Herrick, Glenn W., Insect Enemies of Shade Trees. Comstock Publishing Company, Inc., Ithaca, N. Y., 1935. Price $5.00.

This is a beautifully printed octavo volume of 417 pages, illustrated by one plate and 321 text figures. There is an interesting chapter on the value of shade trees, one on materials for control of insects and one on the treatment of weakened trees. These are followed by 27 chapters on the insect enemies of the more popular shade trees. Under each tree is an account of its principal insect enemies, including a description of the injury they inflict, their life history and control, and in most cases one or more excellent cuts serve to identify the pest. We notice that Dr. Herrick has adopted the common but erroneous use of the term Hemiptera in place of Heteroptera. The former name having been established by Linnæus to include both the Heteroptera and Homoptera, there is no justification for confining the name to one of the suborders founded later by Latreille.

While treating mostly of eastern species our western insect pests have not been neglected. The book can be heartily recommended for the use of those having the care of shade trees.—E. P. Van Duzee.

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